Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A method for activating adenosine 5'-monophosphate-activated protein kinase (AMPK) in a patient in need thereof, wherein the method comprises

   malting barley, grinding the malted barley, and extracting the malted barley with a solvent to obtain a malted barley extract;

   fractionating the malted barley extract by ion exchange chromatography and removing protein from at least some of the fractions by molecular sieving chromatography to prepare a low-molecular weight composition;

   administering to said patient the low-molecular weight [[a]] composition in ~~comprising~~ a therapeutically effective amount ~~of a compound~~ that activates AMPK~~, wherein the compound that activates AMPK has the structure of a compound purified from an extract of ground barley malt~~.

2. (canceled)

3. (canceled)

4. (currently amended) The method of claim 1 [[3]], wherein the at least some of the fractions ~~one or more collected protein fractions~~ comprise a thaumatin-like protein.

5. (currently amended) The method of claim 4, wherein the low-molecular weight composition has an absorption maximum at about 260 nm ~~a thaumatin-like protein is removed from the one or more collected protein fractions by molecular sieving chromatography~~.

6. (Original) The method of claim 1, wherein the patient suffers from obesity.

7. (Original) The method of claim 1, wherein the patient suffers from insulin resistance.

8. (Original) The method of claim 1, wherein the patient suffers from a condition or disorder selected from the group consisting of: non-insulin dependent (type 2) diabetes mellitus, high blood pressure, elevated levels of triglycerides, hyperinsulinemia, glucose intolerance, low levels of high density lipoprotein (HDL), ischemia, hypoxia and glucocorticoid-induced apoptosis.

9. (currently amended) The method of claim 1, wherein administration of the low-molecular weight composition ~~the method~~ results in one or more of the following: (1) reduces one or more of fatty acid synthesis, sterol synthesis, triglyceride synthesis and fatty acid synthase gene expression; (2) ameliorates one or more conditions or disorders that are characterized by elevations in one or more of the pathways or mechanisms involved in fatty acid synthesis, sterol synthesis, triglyceride synthesis and fatty acid synthase gene expression; (3) increases fatty acid oxidation and ketogenesis; (4) inhibits lipogenesis and/or isoprenaline-stimulated lipolysis; (5) ameliorates one or more conditions or disorders that are characterized by elevations in one or both of lipogenesis and isoprenaline-stimulated lipolysis pathways, or that are exacerbated by the elevations in one or both of these pathways; (6) decreases insulin secretion; (7) ameliorates one or more a conditions or disorders that are characterized by elevated insulin secretion, or that are exacerbated by insulin secretion; (8) enhances glucose uptake in muscle cells; (9) ameliorates one or more condtions or disorders that are characterized by decreased glucose uptake in muscle cells, or that are exacerbated by the effects of decreased glucose uptake in muscle cells; (10) reduces levels of cytoplasmic HuR, which in turn, in reduces concentrations and half-lives of target mRNA transcripts, (11) ameliorates one or more conditions or disorders that are characterized decreased levels of HuR and its target transcripts, or that are exacerbated by the effects of decreased levels of HuR and its target transcripts; (12) provides protection against glucocorticoid-induced apoptosis; (13) ameliorates one or more conditions or disorders that are characterized by increased glucocorticoid-induced apoptosis, or that are exacerbated by glucocorticoid-induced apoptosis; (14) protects against cellular stresses resulting from ischemia; (15) inhibits adipogenesis; (16) ameliorates one or more conditions or disorders that are characterized by increased adipogenesis, or that are exacerbated by adipogenesis; (17) protects neurons against metabolic and excitotoxic insults associated with the pathogenesis of a

neurodegenerative condition; (18) promotes astrocytes to produce ketone bodies as a substrate for neuronal oxidative metabolism; (19) increases insulin sensitivity of muscle glucose transport; (20) protects against hepatic ischemia-reperfusion (I/R) injury associated with liver transplantation and hepatic resections; (21) lowers blood glucose concentrations by decreasing hepatic glucose production and/or increasing glucose disposal in skeletal muscle; and (22) ameliorates one or more conditions or disorders associated with insulin resistance syndrome through improving glucose tolerance, improving lipid profile or reducing systolic blood pressure.

10. (currently amended) A method for treating a patient suffering from a condition or disorder associated with AMPK regulation, wherein the method comprises activating the AMPK according to a method of claim 1 ~~administering to said patient a composition comprising a therapeutically effective amount of a compound that activates AMPK, wherein the compound that activates AMPK has the structure of a compound purified from an extract of ground barley malt~~.

11. (currently amended) The method of claim 10, wherein the low-molecular weight composition has an absorption maximum at about 260 nm ~~compound that activates AMPK is purified from an extract of ground barley malt~~.

12. (Original) The method of claim 10, wherein the low-molecular weight composition is orally administered in 3 daily doses of 500 mg ~~compound purified from an exact of ground barley malt is obtainable through a purification process comprising: (1) fractionating the extract of ground barley malt by ion exchange chromatography into protein fractions; (2) collecting one or more protein fractions; and (3) removing protein from the protein fractions by molecular sieving chromatography to result in a purified compound that activates AMPK~~.

13. (Original) The method of claim 10, wherein the condition or disorder is obesity.

14. (Original) The method of claim 10, wherein the condition or disorder is insulin resistance.

15. (Original) The method of claim 10, wherein the condition or disorder is selected from the group consisting of: non-insulin dependent (type 2) diabetes mellitus, high blood pressure, elevated levels of triglycerides, hyperinsulinemia, elevated cholesterol, glucose intolerance, low levels of high density lipoprotein (HDL), ischemia, hypoxia and glucocorticoid-induced apoptosis.

16. (currently amended) A process for purifying from an extract of ground barley malt a composition comprising a compound that activates AMPK, wherein the process comprises: (1) fractionating the extract of ground barley malt by ion exchange chromatography into protein fractions; (2) collecting one or more protein factions; and (3) removing a thaumatin-like protein from the protein fractions by molecular sieving chromatography to result in a low-molecular weight composition that has an absorption maximum at about 260 nm ~~purified compound that activates AMPK~~.

17. (currently amended) A composition that comprises a compound at activates AMPK and that is produced by the process of ~~, wherein the compound comprises the same structure as the compound recited in~~ claim 16 ~~that activates AMPK~~.